

What is claimed is:

1. A system for remediating aberrations along a perimeter of a substrate, the system comprising:

a cleaning apparatus adapted to spin the substrate within a confined area;

a chuck, defining the confined area, having a sidewall extending above an upper surface of the substrate and surrounding the perimeter of the substrate in a spaced apart relationship, also having a bottom wall, with an aperture formed therein, beneath a lower surface of the substrate;

an isolation barrier, disposed atop the bottom wall of the chuck, around the aperture, and in proximal relationship to the lower surface of the substrate, such that a narrow gap is formed between an upper surface of the barrier and the lower surface of the substrate;

a pressurized source adapted to forcefully direct a gas at and along the lower surface of the substrate; and

a remediation solution applied to the upper surface of the substrate, wherein the solution is forced into a well formed between an inner surface of the chuck sidewall and the perimeter of the substrate such that the solution bathes the perimeter of the substrate.

2. The system of claim 1, wherein the remediation solution is adapted to remediate only metal.

3. The system of claim 2, wherein the solution comprises HF, nitric acid, acetic acid, and water.

1 4. The system of claim 3, wherein the solution comprises HF, nitric acid, and acetic acid
2 in a [1:5:1] ratio.

1 5. The system of claim 3, wherein viscosity of the solution is altered by varying the
2 concentration of acetic acid.

1 6. The system of claim 4, wherein the concentration of water is varied between 1 and 5
2 parts.

1 7. The system of claim 1, wherein the remediation solution is adapted to remediate only
2 dielectric.

1 8. The system of claim 1, wherein the remediation solution is adapted to remediate
2 metal and dielectric.

1 9. The system of claim 8, wherein the solution comprises nitric acid, phosphoric acid,
2 HF, and acetic acid.

1 10. The system of claim 8, wherein the solution comprises nitric acid, phosphoric acid,
2 HF, and acetic acid in a [6:4:1:1] ratio.

1 11. The system of claim 8, wherein viscosity of the solution is altered by varying the
2 concentration of acetic acid.

1 12. The system of claim 1, wherein the isolation barrier comprises a polymer O-ring.

1 13. The system of claim 1, wherein the isolation barrier comprises a ceramic flange.

1 14. The system of claim 1, wherein the narrow gap is formed of a dimension, and the gas
2 is directed along the lower surface of the substrate with sufficient force, such that only the
3 gas passes through the gap and into the well.

1 15. The system of claim 1, wherein the narrow gap is formed of sufficient dimension, and
2 the gas is directed along the lower surface of the substrate with sufficient force, such that a
3 small flow of solution is induced from the well and directed down around the barrier and
4 through the aperture.

1 16. The system of claim 15, wherein the small flow of solution is directed down around
2 the barrier by the gas.

1 17. A wafer edge remediation assembly comprising:

2 a cleaning apparatus adapted to spin a wafer within a confined area;

3 a chuck, defining the confined area, having a sidewall adapted to extend above an
4 upper surface of a wafer and surround the perimeter of a wafer in a spaced apart relationship,
5 also having a bottom wall with an aperture formed therein;

6 an isolation barrier, disposed atop the bottom wall of the chuck, around the aperture,
7 adapted to be disposed in proximal relationship to a lower surface of a wafer;

8 a pressurized source adapted to forcefully direct a gas, through the aperture, at and
9 along a lower surface of a wafer; and

10 a remediation solution source.

1 18. The system of claim 17, wherein the remediation solution source provides a solution
2 adapted to remediate only metal.

1 19. The system of claim 18, wherein the solution comprises HF, nitric acid, acetic acid,
2 and water.

1 20. The system of claim 19, wherein the solution comprises HF, nitric acid, and acetic
2 acid in a [1:5:1] ratio.

1 21. The system of claim 19, wherein viscosity of the solution is altered by varying the
2 concentration of acetic acid.

1 22. The system of claim 20, wherein the concentration of water is varied between 1 and 5
2 parts.

1 23. The system of claim 17, wherein the remediation solution source provides a solution
2 adapted to remediate metal and dielectric.

1 24. The system of claim 23, wherein the solution comprises nitric acid, phosphoric acid,
2 HF, and acetic acid.

1 25. The system of claim 24, wherein the solution comprises nitric acid, phosphoric acid,
2 HF, and acetic acid in a [6:4:1:1] ratio.

1 26. The system of claim 23, wherein viscosity of the solution is altered by varying the
2 concentration of acetic acid.

1 27. The system of claim 17, wherein the isolation barrier comprises a polymer O-ring.

1 28. A chuck for use in remediation of aberrations along a wafer perimeter, the chuck
2 comprising:

3 a sidewall adapted to extend above the wafer perimeter, and to surround the wafer
4 perimeter in a spaced apart relationship, forming a circumferential well therebetween;

5 a bottom wall with an aperture formed therein; and

6 an isolation barrier, disposed atop the bottom wall of the chuck, around the aperture.

1 29. A method of remediating aberrations along a perimeter of a wafer, comprising the
2 steps of:

3 providing a wafer having aberrations along its outer perimeter;

4 providing a cleaning apparatus adapted to spin the wafer within a confined area;

5 providing a chuck, defining the confined area, having a sidewall extending above an
6 upper surface of the wafer and surrounding the perimeter of the wafer in a spaced apart
7 relationship, forming a circumferential well therebetween, and also having a bottom wall,
8 with an aperture formed therein, beneath a lower surface of the wafer;

9 providing an isolation barrier, disposed atop the bottom wall of the chuck, around the
10 aperture, and in proximal relationship to the lower surface of the wafer, forming a narrow
11 gap between an upper surface of the barrier and the lower surface of the wafer;

12 providing a pressurized source adapted to forcefully direct a gas at and along the

13 lower surface of the wafer;

14 providing a remediation solution;

15 applying the remediation solution to the upper surface of the wafer, wherein the
16 solution is forced into the circumferential well such that the solution bathes the outer
17 perimeter of the wafer.

1 30. The system of claim 29, wherein the narrow gap is formed of a dimension, and the
2 gas is directed along the lower surface of the substrate with sufficient force, such that only
3 the gas passes through the gap and into the circumferential well.

1 31. The system of claim 29, wherein the narrow gap is formed of sufficient dimension,
2 and the gas is directed along the lower surface of the substrate with sufficient force, such that
3 a small flow of remediation solution is induced from the circumferential well and directed
4 down around the barrier and through the aperture.